

Client's ref.: TSMC2002-1396  
Our ref: 0503-9808US./Final/王琮郁/Kevin

#### ABSTRACT OF THE DISCLOSURE

A method for capping over a copper layer. A copper layer is deposited overlying a substrate. The copper surface is treated with hydrogen-containing plasma to remove copper oxides formed thereon, thereby suppressing copper hillock formation. The treated copper surface is treated again with nitrogen-containing plasma to improve adhesion of the copper surface. A capping layer is formed on the copper layer.